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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/804,255	03/13/2001	Yoshiaki Tomomatsu	35.G2783	9122

5514 7590 10/19/2004

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EXAMINER

THOMPSON, JAMES A

ART UNIT

PAPER NUMBER

2624

DATE MAILED: 10/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/804,255

Applicant(s)

TOMOMATSU, YOSHIAKI

Examiner

James A Thompson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

2. Claim 4 is objected to because of the following informalities:

The limitation "identifying the types of objects" is present in claim 1, line 7 and then repeated in claim 4, line 3. Since claim 4 is dependent upon claim 1, and thus contains *inter alia* all of the limitations of claim 1, the limitation "identifying the types of objects" is therefore repeatedly recited.

Further, claim 4 states "the histogram uses a rendering command statement that specifies the rendering of the object." This is a complete sentence in and of itself, though it is written as single clause in the sentence of claim 4. This is therefore inaccurate and confusing language and needs to be modified.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole

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would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-2, 5, 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda (US Patent 6,008,812) in view of Clouthier (US Patent 5,949,964).

Regarding claims 1, 9 and 11: The apparatus of claim 9 performs the method of claim 1 and comprises the program embodied on a recording medium recited in claim 11.

Ueda discloses an image processing apparatus (figure 1 of Ueda) for processing an input image that contains a plurality of objects (figure 10; and column 16, lines 40-42 and lines 45-48 of Ueda) comprising identifying means (figure 1(11)(portion)) of Ueda) for inputting rendering command statements that specify the rendering of the plurality of objects (column 4, lines 54-58 of Ueda), analyzing the rendering command statements (column 4, lines 62-64 and column 5, lines 3-7 of Ueda), and identifying the types of objects (column 5, lines 25-28 of Ueda). The CPU (figure 1(12) of Ueda) loads the software programs (column 4, lines 62-64 of Ueda), wherein said software programs include illustration image editing software, word processing software, and others (column 4, lines 37-43 of Ueda), and executes said software programs based on the type of image data (column 5, lines 3-7 of Ueda), said image data types including photographic image data, text data, and others (column 5, lines 24-28 of Ueda). Said image data types are combined into a single composite image (column 4, lines 54-55 of Ueda), which is, by definition, rendering said composite image. The rendering command statements that are entered via the various software programs must inherently be analyzed in order to determine which

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software programs are used to edit and render which portion of the composite image data.

Said processing apparatus further comprises image correcting means (figure 1(11)(portion)) of Ueda) for, when a specific type of object is identified through the identification (figure 11 and column 5, lines 56-58 of Ueda), re-inputting a rendering command statement that specifies rendering of the specific type of object so as to correct the specific type of object (column 5, lines 59-65 of Ueda). Based on the specific type of image to be rendered (figure 11 and column 5, lines 61-65 of Ueda), a specific rendering command statement is used (column 5, lines 56-61 of Ueda). The specific rendering commands are a part of the various software programs that are used (column 4, lines 54-58 of Ueda) and are initially input by the CPU, along with the various types of data to be processed (column 4, lines 62-67 of Ueda) and therefore must be re-input to be executed.

The microcomputer portion (figure 1(11) of Ueda) of the apparatus (figure 1 of Ueda) includes a CPU (figure 1(12) of Ueda), which performs the various operations of said apparatus (column 4, line 61 of Ueda), a program memory (figure 1(13) of Ueda), a working memory (figure 1(14) of Ueda), and an image memory (figure 1(16) of Ueda) (column 4, lines 19-24 of Ueda). The identifying means and the image correcting means are the corresponding portions of the microcomputer, particularly including the portions of the CPU, the various memories, and the therein embodied software programs that perform the operations of said identifying means and said image correcting means.

Ueda does not disclose expressly that, when said identifying means fails to identify the specific type of object,

a rendering command statement needed for execution of image correction is not re-input.

Clouthier discloses that, when the identifying means fails to identify the specific type of object (column 3, lines 39-43 of Clouthier), a rendering command statement needed for execution of image correction is not re-input (column 4, lines 9-13 of Clouthier). If the specific type of an object is not identified, said object is assumed to be raster image data (column 3, lines 39-43 of Clouthier). It can therefore directly be part of the received image data (column 4, lines 9-13 of Clouthier), since said object is already in raster format, and therefore does not need image correction commands to be re-input.

Ueda and Clouthier are combinable because they are from the same field of endeavor, namely the control, correction and rendering of image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to designate an object as a default raster image data type if said object is not identifiable, as taught by Clouthier, and therefore have no image corrections performed on said object. The motivation for doing so would have been that, if an object is not identifiable, then it would not be logical to perform image correction upon said object. Objects that are identifiable are corrected based on the specific designation (column 5, lines 56-65 of Ueda), but if there is no designation, then there are no criteria by which to perform image correction. Therefore, it would have been obvious to combine Clouthier with Ueda to obtain the invention as specified in claims 1, 9 and 11.

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Regarding claim 2: Ueda discloses that said specific type of object is a photographic image (figure 11 and column 5, lines 25-31 of Ueda).

Regarding claim 5: Ueda discloses dividing said input image containing said plurality of objects into a plurality of portions (figure 9 and column 8, lines 41-46 of Ueda). In the example of figure 9 of Ueda, all of the photographic partial images (figure 9(52a-52m) of Ueda) are placed in a photographic portion (figure 9(52) and column 8, lines 47-49 of Ueda). Further, another photographic region is formed (figure 9(54) and column 8, lines 49-52 of Ueda), two separate text regions are formed (figure 9(56,58) and column 8, lines 52-55 of Ueda), and a graphic image regions is formed (figure 9(60) and column 8, lines 55-57 of Ueda).

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda (US Patent 6,008,812) in view of Clouthier (US Patent 5,949,964) and well-known prior art.

Regarding claim 3: Ueda discloses outputting data representing the corrected object to an image forming unit (figure 1(24) and column 5, lines 14-19 of Ueda).

Ueda further discloses inputting said rendering command statements using software (column 4, lines 54-58 of Ueda). Therefore, said rendering command statements are inherently input from an operating system, which resides on a computer (figure 1(11) of Ueda), since said software inherently requires an operating system in order to be loaded onto a computer and be executed on said computer.

Ueda does not disclose expressly executing said image processing method by a printer driver.

Official Notice is taken that performing image processing using a printer driver and inputting commands from an operating system which resides on a computer are old, well-known, and expected in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a printer driver for performing image processing since printer drivers are common means of performing image processing for the particular printer to which the resultant image is to be output.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda (US Patent 6,008,812) in view of Clouthier (US Patent 5,949,964) and Kim (US Patent 5,963,665).

Regarding claim 4: Ueda discloses identifying the types of objects (column 5, lines 25-28 of Ueda). Further, when a type of object is said specific type (column 4, lines 54-58 of Ueda), a rendering command statement that specifies the rendering of an object is used (column 4, lines 62-67 of Ueda); and said rendering command statement is re-input for image correction (column 5, lines 59-65 of Ueda). The type of image enhancement performed depends on the type of object detected (column 5, lines 59-65 of Ueda). The specific rendering commands are a part of the various software programs that are used (column 4, lines 54-58 of Ueda) and are initially input by the CPU, along with the various types of data to be processed (column 4, lines 62-67 of Ueda) and therefore must be re-input to be executed.

Ueda in view of Clouthier does not disclose expressly plotting a histogram when a type of object is said specific type, the histogram uses a rendering command statement that specifies rendering of the object; and correcting the object whose rendering is specified by the re-input rendering command

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statement under a condition for image correction drawn from the histogram.

Kim discloses plotting a histogram of each object (frame) of an image (column 5, lines 47-52 of Kim); and correcting each object of the image under a condition for image correction drawn from the histogram (column 4, lines 48-53 of Kim).

Ueda in view of Clouthier is combinable with Kim because they are from the same field of endeavor, namely the processing and correction of image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to plot a histogram for an object, as taught by Kim, when a type of object is a specific type and using a rendering command statement that specifies rendering of the object, as taught by Ueda. The histogram would also be used to determine the condition for correcting the object, as taught by Kim, wherein the rendering of said object is specified by the re-input rendering command statement, as taught by Ueda. The motivation for doing so would have been to enhance the quality of the resulting image by compensating for the brightness levels of the different image frames (column 5, lines 36-40 of Kim).

Therefore, it would have been obvious to combine Kim with Ueda in view of Clouthier to obtain the invention as specified in claim 4.

7. Claims 6-8, 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda (US Patent 6,008,812) in view of Shustorovich (US Patent 6,028,956).

Regarding claims 6, 10 and 12: The apparatus of claim 10 performs the method of claim 6 and comprises the program embodied on a recording medium recited in claim 12.

Ueda discloses an image processing apparatus (figure 1 of Ueda) comprising input means (figure 1(11(portion)) of Ueda) for inputting rendering command statements that specify rendering of objects (column 4, lines 54-58 of Ueda) belonging to a predetermined area in the input image (figure 9 and column 8, lines 41-44 of Ueda). Partial images, such as the photographic partial images (figure 9(52a-52m) of Ueda), are rendered in a particular pre-determined area (figure 9(52) of Ueda) of the composite image shown in the example in figure 9 of Ueda (column 8, lines 41-44 of Ueda).

Said apparatus further comprises judging means (figure 1(11(portion)) of Ueda) for judging whether the rendering command statements each specify rendering of a specific type of object (column 4, lines 45-54 of Ueda).

Ueda does not disclose expressly that, when there is a possibility that an object thought to be the same as the specific type of object belongs to the next predetermined area, a rendering command statement that specifies rendering of the object belonging to the next predetermined area is input to make the judgment.

Shustorovich discloses defining image objects (figure 8a and figure 9 of Shustorovich) such that when there is a possibility that an object thought to be the same as the specific type of object belongs to the next predetermined area, a rendering command statement that specifies rendering of the object belonging to the next predetermined area is input to make the judgment (column 20, lines 5-12 and lines 28-33 of Shustorovich). The characters in figure 8a of Shustorovich are clearly text objects. A rendering command statement renders the text as separate objects by windowing them, even if said text

objects are touching (column 20, lines 5-12 of Shustorovich). The faces in figure 9 of Shustorovich are clearly drawing or photographic objects. A rendering command statement renders the heads as separate objects, even if said head objects are touching (column 20, lines 28-33 of Shustorovich).

Ueda and Shustorovich are combinable because they are from the same field of endeavor, namely image data region separation and composite image processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to render objects separately, even if they are touching, as taught by Shustorovich. The motivation for doing so would have been to further simplify and increase the accuracy of object classification and recognition (column 5, lines 51-57 of Shustorovich). Therefore, it would have been obvious to combine Shustorovich with Ueda to obtain the invention as specified in claims 6, 10 and 12.

Further regarding claim 7: Shustorovich discloses judging whether a plurality of objects judged to be of said specific type is the same object (figure 9 and column 20, lines 28-33 of Shustorovich); and correcting the plurality of objects judged to be the same objects (column 20, lines 31-33 of Shustorovich).

Further regarding claim 8: Shustorovich discloses that, when an object judges to be of said specific type lies on a border between said predetermined area and an adjoining predetermined area, it is judged that there is a possibility that an object thought to be the same as said specific type of object belongs to the adjoining predetermined area (figure 9 and column 20, lines 30-33 of Shustorovich). As can be seen in figure 9 of Shustorovich, the face of the woman and the face of the child are thought to be in the same area since they are

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touching (figure 9(910) of Shustorovich), but since the centers are far enough apart (figure 9(930) of Shustorovich), they are considered to be in separate predetermined areas (figure 9(950) of Shustorovich).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A Thompson whose telephone number is 703-305-6329. The examiner can normally be reached on 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K Moore can be reached on 703-308-7452. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James A. Thompson
Examiner
Art Unit 2624

JAT
14 October 2004



THOMAS D.
~~LEE~~ LEE
PRIMARY EXAMINER